

The sole outstanding issue concerns the rejection of the claims under 35 U.S.C. § 103(a) as obvious based on Kijlstra et al. (U.S. Pat. No. 5,969,002) in view of Yamaguchi et al. (U.S. Pat. No. 6,794,473). Applicants respectfully traverse.

The present claims concern an aqueous, colloidal, freeze-resistant and storage-stable gas black suspension, a process for producing the suspension, a process of using the suspension to make ink, inkjet ink, lacquer or printing ink and corresponding products. The suspension includes a dispersion-supporting additive. Moreover, the dispersion-supporting additive is styrene-acrylic acid copolymer.

The Office Action concedes that Kijlstra fails to disclose employing styrene-acrylic acid copolymer. Instead, the Office Action asserts the teachings of Yamaguchi regarding acrylic acids salts, when combined with the teachings of Kijlstra, render the claimed invention obvious. Applicants respectfully disagree for the following reasons.

Kijlstra teaches that a water soluble polyisocyanate addition product serves as the dispersant in his ink preparation. See Column 1, Lines 35-46 and Column 2, Lines 18-42. Yamaguchi generically teaches that an acrylic acid polymer has dispersibility properties. However, neither patent teaches or fairly suggests that the acrylic acid polymer described by Yamaguchi is equivalent to the a water soluble polyisocyanate addition product employed by Kijlstra. Moreover, there is nothing in the teachings of Yamaguchi which shows that the acrylic acid polymer is better or superior to the polyisocyanate used by Kijlstra. In fact, nothing in either cited patent suggests that one of ordinary skill in the art would achieve any benefit or improvement by substituting the polyisocyanate used by Kijlstra with Yamaguchi's acrylic acid polymer. Hence, the teachings of the two patents fail to provide any motivation for substituting the polyisocyanate used by Kijlstra with Yamaguchi's acrylic acid polymer. Moreover, the rejection is improperly based on hindsight.

To establish a prima facie case of obviousness, the Examiner must provide factual support from a cited patent for the proposed modification or combination. This factual support

must be based on objective evidence of record and must establish that the cited patent itself provides the requisite motivation, suggestion, or teaching regarding the desirability of making the specific combination made by the Applicant. The factual question of motivation is material to patentability, and can not be resolved on subjective belief and unknown authority. It is improper to determine whether a person of ordinary skill would have been led to modify the prior art based upon hindsight. See *In re Sang Su Lee*, 277 F.3d 1333, 61 USPQ2d 1430 (Fed. Cir. 2002). Moreover, it is improper to base an obviousness rejection on hindsight afforded from the teachings of Appellants' specification and claimed invention. *See Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136 (Fed. Cir. 1986).

With respect to the teachings of Yamaguchi, Applicants make the following additional remarks. Considering this rejection in the light most favorable to the Office, at best, Yamaguchi generically discloses an acrylic acid polymer. Even if a claimed species or sub-genus is broadly encompassed by a prior art genus, however, this fact alone is not sufficient to establish a *prima facie* case of obviousness. See, for example, *In re Baird*, 16 F.3d 380, 382, 29 U.S.P.Q. 2d 1550, 1552 (Fed. Cir. 1994) and *M.P.E.P.* § 2144.08. The Federal Circuit's decision in *Baird* prompted the U.S. PTO to issue guidelines to assist its examiners in properly applying 35 U.S.C. § 103 in a genus/sub-genus/species situation. These guidelines are set forth in *M.P.E.P.* § 2144.08, which includes a flow chart. This flow chart clearly illustrates the proper analytical procedure to be applied by U.S. PTO examiners in determining whether a generic prior art disclosure renders *prima facie* obvious a claimed sub-genus or species. Proper application of the guidelines in this case compels a finding that Applicants' claimed invention is not rendered *prima facie* obvious by the combined teachings of Kijlstra and Yamaguchi.

According to the guidelines, after considering the traditional *Graham v. John Deere* factors, one must consider whether the skilled artisan would have been motivated to select the claimed sub-genus or species. In this case, Applicants' claims recite employing styrene-acrylic acid copolymer as a dispersion-supporting additive. As a first step in the § 103 analysis, one

must consider the size of the genus disclosed in the reference and determine whether the reference inherently discloses the claimed combination. Yamaguchi discloses an acrylic acid salt polymer that mainly comprises a structural unit derived from acrylic acid salt, but can include other structural units. The other monomers that can be employed include:

carboxyl-group-containing polymerizable monomers, such as maleic acid, fumaric acid, and itaconic acid; sulfonic-acid-group-containing polymerizable monomers, such as vinylsulfonic acid, methallylsulfonic acid, allylsulfonic acid, and 3-(meth)allyloxy-2-hydroxypropanesulfonic acid; amide-containing polymerizable monomers, such as (meth)acrylamide and t-butyl(meth)acrylamide; allyl ether polymerizable monomers, such as glycerol mono(meth)allyl ether; hydroxyl-group-containing polymerizable monomers, such as 2-hydroxyethyl (meth)acrylate, allyl alcohol, 3-methyl-3-buten-1-ol (isoprenol), and glycerol mono(meth)acrylate; nitrile polymerizable monomers, such as acrylonitrile; hydrophobic polymerizable monomers, such as methyl (meth)acrylate, ethyl (meth)acrylate, vinyl acetate, and styrene; and their salts. See Column 4, Lines 32-48.

The above thus corresponds to a very large number of chemical compounds. Accordingly, the genus disclosed by Yamaguchi is not so small that each member thereof is inherently disclosed.

The next step in the § 103 analysis requires a determination of whether express teachings in the reference would have motivated selection of Applicants' claimed styrene-acrylic acid copolymer. Again, the answer to this question is "no." In addition to the broad, generic teachings in Yamaguchi as described above, Yamaguchi teaches among the above list of compounds, the carboxyl-group-containing polymerizable monomers, such as maleic acid, fumaric acid, and itaconic acid, are favorable, and unsaturated (poly)alkylene glycol ether monomers are more favorable. See Column 4, Lines 49-53. Nothing in Yamaguchi steers a person of ordinary skill in the art toward Applicants' specifically claimed styrene-acrylic acid copolymer.

The guidelines indicate that the next step in the § 103 analysis requires consideration of whether the reference teaches structural similarity between the disclosed optimum or preferred prior art embodiments and the claimed sub-genus. Nothing in Yamaguchi discloses or suggests that the preferred compounds are structurally similar to Applicants' very different compound.

The final step in the § 103 analysis requires consideration of whether any other teachings in the reference support selection of the claimed sub-genus. This is a final catch-all category that allows consideration of information not specifically considered in the remainder of the proper § 103 analysis. Other than Yamaguchi's broad, generic teachings, nothing in this document teaches or suggests selection of Applicants' specifically claimed sub-genus. Broad, generic teachings alone, however, are not sufficient to establish *prima facie* obviousness. *See In re Baird, supra* and *M.P.E.P.* § 2144.08.

In view of the foregoing, Applicants respectfully submit that the 35 U.S.C. § 103 analysis, using the U.S. PTO guidelines set forth in *M.P.E.P.* § 2144.08, compels a determination that the combined teachings of Kijlstra and Yamaguchi fail to render the present claims *prima facie* obvious. Withdrawal of this rejection on this basis is respectfully requested.

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Applicants respectfully submit this Amendment and the above remarks obviate the outstanding rejections in this case, thereby placing the application in condition for immediate allowance. Allowance of this application is earnestly solicited.

If any fees are due in connection with the filing of this Amendment, such as fees under 37 C.F.R. §§ 1.16 or 1.17, please charge the fees to our Deposit Account No. 02-4300; Order No. 032301. 341.

Respectfully submitted,

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